

## **RF Exposure Considerations for FCC ID: 2APCX-TNLFIW10**

### **SAR Test exclusion evaluation for device used as portable**

Per FCC KDB 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances*  $\leq$  50 mm are determined by (Eq.1) below:

$$SAR = \frac{MaxPower(mW)}{d(mm)} \times \sqrt{f(GHz)} \quad (Eq. 1)$$

Where:

- SAR is the calculation for test exclusion threshold;
- MaxPower is the maximum power of channel, including tune-up tolerance, in mW;
- d is the minimum test separation distance, in mm;
- f is the RF channel transmit frequency, in GHz.

Power and distance are rounded to the nearest mW and mm before calculation.

The result is rounded to one decimal place for comparison.

If result of Eq.1 is less than or equal to the exemption limits below, then corresponding SAR test is not required.

SAR Test Configuration	Exemption limit
1-g SAR	Result of Eq.1 $\leq$ 3.0
10-g extremity SAR	Result of Eq.1 $\leq$ 7.5

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq$  50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is  $<$  5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

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For the device, the parameters for consideration are as follows:

Frequency (MHz)	Maximum source-based time averaged conducted output power including tune-up tolerance	Minimum separation distance (mm)	Result of Eq. 1	Limit for 1-g SAR	Limit for 10-g extremity SAR	Verdict
2412 / 2462 WIFI	50.1mW*	26	3.0	3.0	7.5	Exempt from SAR
2402 / 2480 BLE	2mW*	5	0.6	3.0	7.5	Exempt from SAR

(\*Rated output power)

**Conclusion:** Therefore the device complies with FCC's RF radiation exposure limits for general population without SAR evaluation when it is used at a distance of 26mm in WIFI mode.

The device complies with FCC's RF radiation exposure limits for general population without SAR evaluation when it is used at a distance of 5mm in BLE mode.

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